Specification (clean version encompassing amendments)

The paragraph at page 4, lines 20-25:

Preferably, the phosphate protecting group is a group capable of undergoing β-elimination, such as 2-cyanoethyl. The reagent cleaves the phosphate protecting group from the oligonucleotide by β-elimination. Preferably, the reagent comprises an amine with a formula R-N-R_1R_2 wherein R, R_1 and R_2 are independently hydrogen, hydroxy, alkyl, allyl, aryl, cycloalkyl, alkenyl, alkoxy, allyloxy, aryloxy, and may include from one to twenty carbon atoms.

The paragraph bridging pages 4 and 5, beginning on page 4, line 26 and ending on page 5, line 2:

In particular, the instant disclosure pertains to a method for purifying an oligonucleotide that comprises providing an oligonucleotide containing a phosphate protecting group attached to a substrate, wherein the phosphate protecting group is 2-cyanoethyl; contacting the oligonucleotide with diethylamine to cleave the phosphate protecting groups from the oligonucleotide without detaching the oligonucleotide from the substrate; isolating the oligonucleotide attached to the substrate from the cleaved phosphate protecting groups; and contacting the oligonucleotide attached to the substrate with ammonium hydroxide to cleave the oligonucleotide from the substrate.

The paragraph bridging pages 7 and 8, beginning on page 7, line 27 and ending on page 8, line 12:

After completion of oligonucleotide synthesis using any available method such as phosphite triester and H-phosphonate chemistries, the substrate-bound oligonucleotide is treated with a reagent to selectively remove the phosphate protecting groups from the oligonucleotide backbone. The selection of reagent and conditions thereof is generally dependent on the ability of the reagent to selectively cleave the phosphate protecting groups in such a manner that the oligonucleotide still remains attached to the substrate. Any compound or enzyme that can achieve this effect falls within the scope of the present disclosure. For example, many phosphate protecting groups such as 2-cyanoethyl are capable of undergoing β-elimination. Accordingly, any reagent capable of cleaving the phosphate protecting group from the oligonucleotide by β-elimination may be used. Organic amines such as primary, secondary or tertiary amines that can remove the phosphate protecting group without cleaving the oligonucleotide from the substrate are preferred. More preferred are amines with the formula R-N-R_1R_2, wherein R, R_1 and R_2 are independently hydrogen, hydroxy, alkyl, allyl, aryl, cycloalkyl, alkenyl, alkoxy, allyloxy, aryloxy, and may include from one to twenty carbon atoms. Most preferred are t-butylamine-methylamine and diethylamine, in particular a solution of about 20% v/v diethylamine in anhydrous acetonitrile.